



*The City of Houston's drinking water meets or exceeds all Texas Commission on Environmental Quality (TCEQ) and Environmental Protection Agency (EPA) requirements*

**Safe Drinking Water Act Amendments**

The following information has always been available to City of Houston customers. Since October 1999, all community water systems have been required to distribute to their customers an annual report on the quality of their drinking water.

**Sources of Drinking Water**

The sources of tap water and bottled water include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include: microbial, such as viruses and bacteria, inorganic, such as salts and metals, pesticides and herbicides, organic chemicals, including synthetic and volatile organic chemicals, and radioactive constituents.

**City of Houston Water Sources**

The total production from all sources averaged 359 million gallons per day (MGD) in 2004. The City currently draws 70% of its treated drinking water from its four surface water treatment plants. Surface water comes from the San Jacinto River, through Lakes Conroe and Houston, and the Trinity River through Lake Livingston. The remaining 30% comes from 193 permitted wells at 93 separate groundwater plants. These are very deep wells, producing water from the Evangeline and Chicot Aquifers, and are not vulnerable to surface contamination. The TCEQ completed a Source Water Assessment for the City of Houston, and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detection of these contaminants will be found in this Report. For more information on source water assessments and protection efforts at our system contact 713/842-4031.

**Are Giardia or Cryptosporidium in our water supply?**

*Cryptosporidium* and *Giardia* are waterborne pathogenic organisms. Both are naturally present in the intestines of most mammals including humans, and are passed into the environment through urban runoff or sewage disposal system failure. The diseases caused by *Cryptosporidium* or *Giardia* can lead to symptoms such as diarrhea, abdominal discomfort, fever, weight loss, malabsorption, or anemia. Although not life threatening to healthy adults, *Cryptosporidium* and *Giardia* can be fatal to infants, the elderly, pregnant women, and immunocompromised persons.

Neither *Giardia* nor *Cryptosporidium* is found in deep wells, such as the City's, which are protected from surface water contamination. Since 1993, we have been routinely monitoring our rivers and treated water leaving our filtration plants for these two organisms. To date, we have detected no confirmed occurrences of either of these in any of our drinking water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Contaminants may be found in drinking water that may cause taste, color, or odor problems. Presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's **Safe Drinking Water Hotline 800/426-4791**.

**What about arsenic levels?**

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system and may have an increased risk of getting cancer.

**Water Standards Governed by Federal Agencies**

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

**SPECIAL NOTICE FOR THE ELDERLY, INFANTS, CANCER PATIENTS, PEOPLE WITH HIV/AIDS OR OTHER IMMUNE PROBLEMS:**

You may be more vulnerable to certain microbial contaminants in drinking water than the general population. In particular, infection by *Cryptosporidium* is of concern. Infants, some elderly or **IMMUNO-COMPROMISED PERSONS** such as those who have undergone **CHEMOTHERAPY for CANCER**; those who have undergone **ORGAN TRANSPLANTS**; those who are undergoing treatment with steroids; and people with **HIV/AIDS** or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from:

**Safe Drinking Water Hotline 800/426-4791 or City of Houston Department of Health and Human Services/Bureau of Epidemiology 713/794-9181.**

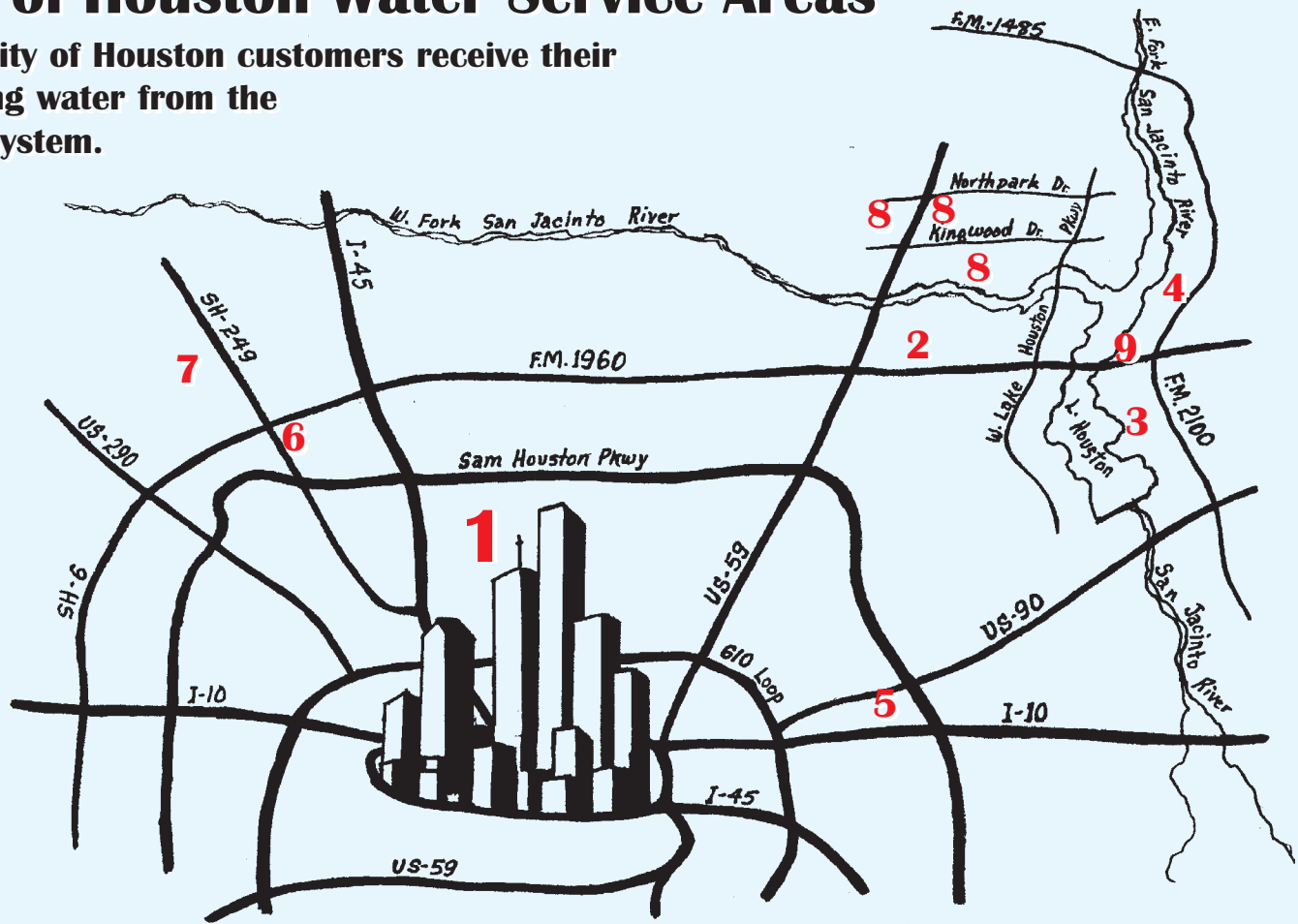
**En Español**

*Este informe contiene información muy importante sobre de su agua que bebe. Tradúzcalo, ó hable con alguien que lo entiende. Para mas información por favor llame Línea de Ayuda de Houston marcando 311.*



# City of Houston Water Service Areas

Most City of Houston customers receive their drinking water from the Main System.



2004\* CONTAMINANTS DETECTED IN YOUR DRINKING WATER; NONE WAS ABOVE THE MCL

## 1. Main System 1010013

(Most City of Houston customers receive their drinking water from the Main System.)

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	SURFACE WATER	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	<2.0 Average Highest <2.0 (2002)	11.3 Average Highest 21.7	Erosion of natural deposits
Arsenic (ppb)	0	10****	<2.0 Average Highest <2.0	3.1 Average Highest 3.8	Erosion of natural deposits
Atrazine (ppb)	3	3	<0.2 Average Highest 0.2	<0.2 Average Highest < 0.2 (2003)	Runoff from herbicide used on row crops; commonly found in surface water at low levels
Barium (ppm)	2	2	0.0518 Average Highest 0.0664	0.2965 Average Highest 0.3490	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50***	<4.0 Average Highest 5.0 (2003)	7.5 Average Highest 12.7	Decay of natural or man made deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.216 at customer tap - none exceeded AL ** (2002)	90% below 0.216 at customer tap - none exceeded AL ** (2002)	Erosion of natural deposits; corrosion of household plumbing
Ethylbenzene (ppb)	700	700	<0.5 Average Highest <0.5	<0.5 Average Highest 1.0	Discharge from petroleum refineries
Fluoride (ppm)	4.0	4.0	0.6 Average Highest 0.7	0.2 Average Highest 0.3	Water additive which promotes strong teeth; erosion of natural deposits
Lead (ppb)	0	90% below AL=15	90% below 4.1 at customer tap - none exceeded AL ** (2002)	90% below 4.1 at customer tap - none exceeded AL ** (2002)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm), as N	10	10	Total Nitrate & Nitrites 0.30 Average Highest 0.37	Total Nitrate & Nitrites 0.12 Average Highest 0.23	Runoff from fertilizer use; erosion of natural deposits
Nitrite (ppm), as N	1	1	Total Nitrate & Nitrites 0.30 Average Highest 0.37	Total Nitrate & Nitrites 0.12 Average Highest 0.23	Runoff from fertilizer use; erosion of natural deposits
Selenium (ppb)	50	50	<3.0 Average Highest <3.0	5.1 Average Highest 10.2	Erosion of natural deposits
Toluene (ppm)	1	1	<0.0005 Average Highest <0.0005	<0.0005 Average Highest 0.0032	Discharge from petroleum factories
Combined Radium (pCi/l)	0	5	<1.0 Average Highest 1.0 (2003)	<1.0 Average Highest 3.6	Erosion of natural deposits
Total Xylenes (ppm)	10	10	<0.0015 Average Highest <0.0015	<0.0015 Average Highest 0.0025	Discharge from petroleum factories; discharge from chemical factories

### MEASUREMENT DEFINITIONS

- NTU    nephelometric turbidity units
- pCi/l   picocuries per liter (a measure of radioactivity)
- ppm    parts per million
- ppb    parts per billion
- EPS    entry points sampled
- N/A    not applicable
- ND    not detected

### TERMINOLOGY

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available technology.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of drinking water disinfectant below which there no known or expected risk to health.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a drinking water disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

\*    Calendar Year 2004 data unless otherwise specified

\*\*   Includes groundwater and surface water sites

\*\*\*   EPA considers 50 picocuries per liter to be the level of concern for beta particles.

\*\*\*\*   These arsenic values are effective January 23, 2006.    Until then , the MCL is 50 ppb and there currently is no MCLG.



These Tables Show What Contaminants Were Detected In Your Drinking Water In 2004.\* None Was Above the MCL.

UNREGULATED CONTAMINANTS

In 2004, the TCEQ conducted testing for 25 compounds required by the Unregulated Contaminant Monitoring Rule.

None of these 25 compounds was reported as present in the City’s drinking water. This included perchlorate and MTBE.

The table on the right lists other compounds which were detected in at least 1 location in the system.

CONTAMINANT (units)	Main System Surface (2004)	Main System Ground (2004)	Belleau Woods Ground (2004)	Willowchase Ground (2002)	UD 5 ( Kingwood Forest Cove, HCMUD 48 & 58) Ground	District 73 Ground (2002)	Spanish Cove Ground (2002-2003)	Harris County MUD 159 Ground (2001-2003)
Chloroform (ppb)	22.3 Average Highest 40.3	3.7 Average Highest 38.0	25.2	6.5 Average Highest 13	<0.5 Average Highest<0.5	2.5 Average Highest 3.5	<2.0 (2003)	<0.5 Average Highest 0.7
Bromodichloromethane (ppb)	8.3 Average Highest 15.3	2.2 Average Highest 33	26.7	11 Average Range = <0.5-22.0	<0.5 Average Highest 2.4	5.7 Average Highest 10.0	<2.0 (2003)	ND
Dibromochloromethane (ppb)	1.4 Average Highest 5.8	1.8 Average Highest 28.0	22.5	5.5 Average Highest 11	<0.5 Average Highest 2.4	7.1 Average Highest 13.0	<2.0 (2003)	ND
Bromoform (ppb)	<0.5 Average Highest <0.5	0.7 Average Highest 9.7	3.8	1.3 Average Highest 2.5	<0.5 Average Highest < 0.5	2.8 Average Highest 5.5	<2.0 (2003)	ND
2-Furancarboxaldehyde (ppb)	ND	ND	ND	ND	ND	ND	2.9 (2002)	ND
4-methyl-2-pentanone (MIBK) (ppb)	ND	ND	ND	ND	ND	1.6 Average Highest 3.1	ND	ND
Chloromethane (ppb)	ND	ND	ND	ND	ND	ND	ND	<2.0 Average Highest 2.1

DISINFECTION BY-PRODUCTS AND DISINFECTANTS  
Main System Surface Water

	Haloacetic Acids - HAAs (ppb)	Total Trihalomethanes TTHMs (ppb)	Chloramines/Free Chlorine (ppm)
MCL	60 as Running Annual Average (RAA) of quarterly samples in distribution system	80 as Running Annual Average (RAA) of quarterly samples in distribution system	MRDL = 4 as Running Annual Average (RAA) of daily distribution system samples
MCLG	N / A	N / A	MRDLG = 4
Average of all sampling points	19.5	20.9	Average Free Chlorine = 1.1 Average Chloramine = 2.0
Range of detected levels	< 6.0 - 62.2	< 8.0-54.1	< 0.1 - 3.7
Source of Constituent	By-product of drinking water disinfection	By-product of drinking water disinfection	Disinfectant used to control microbes

2. Belleau Woods 1011594

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Barium (ppm)	2	2	0.292 (2001)	Discharge of drilling wastes; erosion of natural deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.081 at customer tap - none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Ethylbenzene (ppb)	700	700	0.6 (2001)	Discharge from petroleum refineries
Lead (ppb)	0	90% below AL=15	90% below 2.1 at customer tap - none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Total Trihalomethanes (TTHMs) (ppb)	N/A	80	78.2	By product of drinking water disinfection.
Toluene (ppm)	1	1	0.0006 (2001)	Discharge from petroleum factories
Xylenes (ppm)	10	10	0.0038 (2001)	Discharge from petroleum factories; discharge from chemical factories

MICROBIOLOGICAL AND PHYSICAL QUALITY

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	MAIN SYSTEM	UTILITY DISTRICT 5	SOURCES OF CONTAMINANTS
Total Coliforms	0	5% of monthly samples tested positive	2.3% Highest percentage of monthly samples	2.8% Highest monthly percentage of positive samples	Naturally present in the environment
E. Coli	0	0	ND	ND	Human and animal fecal waste
Viruses, Giardia, Legionella	0	TT	ND	ND	Naturally present in the environment
Turbidity (clarity) (NTU ) Main System - Surface Water	N/A	95% of samples tested each month less than or equal to 0.3	0.07 Average Range=<0.02 - 0.35 97% was the Lowest monthly percentage of samples meeting the limit.	N/A	Soil runoff

3. Spanish Cove 1011590

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Arsenic (ppb)	0	10***	3.0 (2003)	Erosion of natural deposits
Barium (ppm)	2	2	0.316 (2003)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50**	5.8 (2001)	Decay of natural and man made deposits
Copper (ppm)	AL = 1.3	90% below AL=1.3	< 0.002 (2003)	Erosion of natural deposits; corrosion of household plumbing
Fluoride (ppm)	4.0	4.0	< 0.1 (2003)	Erosion of natural deposits
Lead (ppb)	0	90% below AL=15	<1 (2003)	Erosion of natural deposits; corrosion of household plumbing

Customer Service is our #1 priority.

We take pride in the water which is provided to our customers and are continually striving to improve. To accomplish this goal. . . we need your help. Any time you find your water’s quality below your expectations, please contact us through “Houston Help Line” by dialing **311**. We’ll respond promptly and professionally.

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\*\* EPA considers 50 picocuries per liter to be the level of concern for beta particles.  
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4. District 82 1011593

Calvin Village, Hidden Echo, Magnolia Point, Paradise Oaks, and Plantation Hill Subdivisions

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	2.9 Average Highest 3.2 (2001)	Erosion of natural deposits
Barium (ppm)	2	2	0.139	Discharge of drilling wastes; erosion of natural deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.043 at customer tap - none exceeded AL (2000)	Erosion of natural deposits; corrosion of household plumbing
Lead (ppb)	0	90% below AL=15	90% below 1.4 at customer tap - none exceeded AL (2000)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm) as N	10	10	0.15	Runoff from fertilizer use, erosion of natural deposits
Combined Radium (pCi/l)	0	5	<1.0	Erosion of natural deposits

6. Harris County MUD 159 1011782

Willowbrook Mall, The Commons at Willowbrook

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	6.2 (2003)	Erosion of natural deposits
Arsenic (ppb)	0	10***	2.2 (2003)	Erosion of natural deposits
Barium (ppm)	2	2	0.257 (2003)	Discharge of drilling wastes; erosion of natural deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.257 at customer tap-none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Lead (ppb)	0	90% below AL=15	90% below 3.8 at customer tap-none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm) as N	10	10	0.22 (2003)	Runoff from fertilizer use; erosion of natural deposits
Combined Radium (pCi/l)	0	5	0.4 (2003)	Erosion of natural deposits
Selenium (ppb)	50	50	3.9 (2003)	Erosion of natural deposits

8. Utility District 5 1010348

Kingwood, Forest Cove, HCMUD 48 & 58

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	<2.0 (2003)	Erosion of natural deposits
Arsenic (ppb)	0	10***	<2.0 Average Highest 3.0 (2003)	Erosion of natural deposits
Barium (ppm)	2	2	0.240 Average Highest 0.266(2003)	Discharge of drilling wastes; erosion of natural deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.128 at customer tap - none exceeded AL (2003)	Erosion of natural deposits; corrosion of household plumbing
Ethylbenzene (ppb)	700	700	<0.5	Discharge from petroleum refineries
Fluoride (ppm)	4.0	4.0	0.8 Average Highest 0.9	Water additive which promotes strong teeth
Lead (ppb)	0	90% below AL=15	90% below 3.3 at customer tap - none exceeded AL (2003)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm) as N	10	10	<0.01 Average Highest 0.03 (Kingwood)	Ruboff from fertilizer use; erosion of natural dpositis
Combined Radium (pCi/l)	0	5	<1.0 (2002)	Erosion of natural deposits
Toluene (ppm)	1	1	<0.0005	Dishcharge from petroleum factories
Total Trihalomethanes (TTHMs) (ppb)	N/A	Running Annual Average = 80	0.3 Average Highest 4.8	By-product of drinking water disinfection
Total Xylenes (ppm)	10	10	<0.0015	Discharge from petroleum factories; discharge from chemical factories

\* **Calendar Year 2004 data unless otherwise specified**

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5. Hunterwood 1011715

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Arsenic (ppb)	0	10***	7.4 (2003)	Erosion of natural deposits
Barium (ppm)	2	2	0.276 (2003)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	N/A	50**	2.5 (2003)	Decay of natural and man made deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.150 at customer tap - none exceeded AL (2000)	Erosion of natural deposits; corrosion of household plumbing
Fluoride (ppm)	4.0	4.0	0.5 (2000)	Erosion of natural deposits;
Lead (ppb)	0	90% below AL=15	90% below 4.0 at customer tap - one tap exceeded AL (2000)	Erosion of natural deposits; corrosion of household plumbing

7. Willowchase 1011902

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	4.3 Average Highest 8.6 (2002)	Erosion of natural deposits
Arsenic (ppb)	0	10***	2.2 (2003)	Erosion of natural deposits
Barium (ppm)	2	2	0.246 (2002)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50**	<4.0 Average Highest 4.3 (2000-2002)	Decay of natural and man made deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.069 at customer tap-none exceeded AL (2002)	Erosion of natural deposits; corrosion of household plumbing
Fluoride (ppm)	4.0	4.0	0.1 (2002)	Erosion of natural deposits
Lead (ppb)	0	90% below AL=15	90% below 5.2 at customer tap-none exceeded AL (2002)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm) as N	10	10	0.19 (2002)	Runoff from fertilizer use; erosion of natural deposits
Combined Radium (pCi/l)	0	5	0.4 (2002)	Erosion of natural deposits
Selenium (ppb)	50	50	3.8 (2002)	Erosion of natural deposits
Total Trihalomethanes (TTHMs) (ppb)	N/A	80	24.3 Average Highest 48.5 at entry point (2002)	By-product of drinking water disinfection

9. District 73 1011585

Covecrest, Lakewood Heights, Lakeside Manor, Lakewood Village, Scotts Point, Shorewood, and Trott Subdivisions

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	5.2 Average Highest 6.2 (2002)	Erosion of natural deposits
Arsenic (ppb)	0	10***	<2.0 Average Highest 2.2 (2003)	Erosion of natural deposits
Barium (ppm)	2	2	0.28 (2002)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50**	4.6 Average Highest 4.7 (2002)	Decay of natural and man made deposits
Copper (ppm)	1.3	90% below AL=1.3 (1999)	90% below 0.119 at customer tap - none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Ethylbenzene (ppb)	700	700	0.5 Average Highest 0.9 (2002)	Dishcharge from petroleum refineries
Fluoride (ppm)	4.0	4.0	0.2 (2002)	Erosion of natural deposits
Lead (ppb)	0	90% below AL=15	90% below 2.2 at customer tap - one tap exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm) as N	10	10	0.04	Runoff from fertilizer use; erosion of natural deposits
Combined Radium (pCi/l)	0	5	0.6 Average Highest 0.7 (2002)	Erosion of natural deposits
Selenium (ppb)	50	50	3.2 (2002)	Erosion of natural deposits
Total Trihalomethanes (TTHMs) (ppb)	N/A	80	18.0 Average Highest 32.0 at entry point (2002)	By-product of drinking water disinfection
Xylenes (ppm)	10	10	0.0036 Average Highest 0.0052 (2002)	Discharge from petroleum factories; discharge from chemical factories